

ABSTRACT

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Apparatus comprising an optical fibre (1) having a waveguide (2) and at least one stress applying region (3): in which the waveguide (2) is defined by a numerical aperture; the stress applying region (3) has a depressed refractive index; the optical fibre (1) is configured such that the waveguide (2) supports at least two polarised fundamental modes, two polarised first second-order modes, and two polarised second second-order modes; the waveguide (2) comprises a gain medium (4); and the stress applying region (3), the waveguide (2) and the disposition of the gain medium (4) are such as to provide preferential guidance to at least one of the modes at an operating wavelength.